

LXXVI.—*Descriptions of new Genera and Species of*
 Noctuidæ. By Sir GEORGE F. HAMPSON, Bart., F.Z.S.

THE following paper forms a seventh supplement to the first thirteen volumes of the 'Catalogue of Lepidoptera Phalænæ in the British Museum,' 1898-1913. As, however, Supplementary Volumes of the Catalogue to vols. i. to iii. will shortly be issued, descriptions of the species belonging to the Families classified in those volumes are reserved for the Supplement.

The former papers appeared in the Ann. & Mag. Nat. Hist. ser. 7, vol. viii. pp. 165-186 (1901), vol. xi. pp. 337-351 (1903), vol. xv. pp. 425-453 (1905), vol. xix. pp. 221-257 (1907), and ser. 8, vol. iv. pp. 344-388 (1909), and vol. viii. pp. 393-445 (1911).

The numbers before the species indicate their position in the classification adopted in those volumes. The types are in the British Museum.

Noctuidæ.

AGROTINÆ.

49 a. *Chloridea conifera*, sp. n.

♂. Head and thorax whitish mixed with brown; palpi white at base; fore legs darker brown; abdomen yellowish mixed with brown, the ventral surface whitish. Fore wing whitish tinged with brown and irrorated with dark brown, the discal area whiter; small blackish subbasal spots at costa and median nervure; antemedial line black, reduced to points on costal half, oblique to submedian fold, then inwardly oblique and incurved at vein 1; a conical blackish patch from middle of costa enclosing the reniform, which has a faint pale annulus, an indistinct oblique line from it to inner margin; traces of a dark postmedial line excurved to vein 4, then incurved; subterminal line dark, with some dark suffusion before it on costal area, slightly excurved below vein 7; a lunulate black terminal line; cilia dark brown. Hind wing yellow; the base dark brown, emitting a short streak on vein 1, the inner margin reddish brown; a large black discoidal lunule; the terminal area black-brown, its inner edge excurved at middle, then incurved; a yellow patch on termen between veins 4 and 2; cilia whitish towards tornus; the underside with the costal half whitish, the termen towards apex and the patch at middle whitish.

Hab. TRANSVAAL, Johannesburg (*Cooke*), 1 ♂ type.
Exp. 30 mm.

193 b. *Timora umbrifascia*, sp. n.

♀. Head and thorax dark brown tinged with grey; antennæ whitish; palpi, frons, pectus, and legs dark brown; abdomen grey-brown, the ventral surface dark brown. Fore wing whitish tinged with red-brown; a dark brown fascia in and just below the cell extending to termen, with a white fascia on it in discal fold from middle of cell to near termen, pointed at extremities; the terminal area suffused with dark brown. Hind wing white, the margin tinged with brown; the veins with slight brown streaks towards termen; cilia brown at base, whitish at tips; the underside white, the costal and terminal areas tinged with red-brown and irrorated with dark brown.

Hab. NIGERIA, Zungeru (*Macfie*), 1 ♀ type. *Exp.* 34 mm.

268 c. *Micragrotis melanomesa*, sp. n.

♂. Head and tegulæ white slightly tinged with rufous; palpi black except at tips; frons black at sides; antennæ black ringed with white towards base; thorax black mixed with whitish and rufous, the metathorax with white patch; pectus and legs whitish mixed with dark brown, the tarsi blackish ringed with white; abdomen red-brown, the ventral surface white tinged with red-brown. Fore wing grey-white tinged with rufous and striated with brown, the terminal area grey-white striated with brown; subbasal line double, black filled in with white, from costa to vein 1, some black suffusion beyond it on costa and below the cell; antemedial line double, blackish, strong and filled in with white at costa, bent outwards to inner margin, the cell beyond it black; orbicular white, small, elliptical, confluent with a patch on costal area; reniform small, white slightly defined by blackish and with some blackish in centre; postmedial line double, black and filled in with white towards costa, bent outwards below costa, then very indistinct and excurved with a series of dark points on its outer edge, a black patch beyond it on costal area, with some white points on costa; a faint dark subterminal shade defining the whiter area; a terminal series of small black spots; cilia fuscous, with a fine white line at base. Hind wing semihyaline white; the underside with the costal area irrorated with brown, a postmedial series of black points on the veins, and black points on apical half of termen.

Hab. BR. E. AFRICA, Nairobi (*Anderson*), 1 ♂ type. *Exp.* 24 mm.

440 a. *Euxoa phaeochroa*, sp. n.

♂. Head and thorax dark red-brown slightly mixed with greyish; tarsi ringed with white; abdomen reddish brown tinged with grey, the ventral surface whitish irrorated with brown. Fore wing dark red-brown tinged with grey; blackish subbasal spots on costa and below the cell; antemedial line with double blackish spots at costa, then waved and strongly angled outwards above inner margin; orbicular a small brown spot; reniform faintly defined by brown; a diffused brown medial line, oblique to lower angle of cell, then waved; postmedial line with small blackish spot at costa, slightly bent outwards below costa, then dentate, excurved to vein 4, then oblique, some pale points beyond it on costa; subterminal line faint, pale defined on inner side by very slight dentate red-brown marks, excurved below vein 7 and at middle, the area beyond it slightly darker; cilia reddish ochreous with brown lines near base and at middle. Hind wing white tinged with red-brown; a slight discoidal spot, curved postmedial line, and a terminal line; the underside with the costal area irrorated with blackish, the postmedial line diffused.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 30 mm.

772 a. *Agrotis griseofusca*, sp. n.

♂. Head and thorax glossy black-brown; pectus and legs black-brown, the tarsi ringed with white; abdomen pale ochreous, the ventral surface suffused with brown. Fore wing black-brown with a silvery blue-grey gloss; antemedial line fine, black, very highly dentate outwards in the interspaces and inwards on the veins, the tooth in cell extending nearly to the reniform, which is small, with blackish centre and ochreous annulus defined by black; postmedial line indistinct, black, bent outwards below costa, then produced to short streaks on the veins, incurved below vein 4; the veins of terminal area slightly streaked with black; a terminal series of minute black points. Hind wing pure white, the costa and cilia towards apex fuscous; the underside with the costal area irrorated with brown except at base.

Hab. BR. E. AFRICA, Nairobi (*Anderson*), 1 ♂ type. *Exp.* 30 mm.

772 b. *Agrotis rufescens*, sp. n.

♂. Head, thorax, and abdomen rufous mixed with some dark brown; antennæ blackish; legs dark brown, the tarsi

slightly ringed with white; ventral surface of abdomen suffused with dark brown. Fore wing rufous slightly irrorated with brown; the costal area suffused with black-brown except at apex, interrupted at the lines; a minute whitish spot at base of costa defined on outer side by black; subbasal line represented by double oblique black striæ filled in with white from costa and a whitish spot below the cell, a fine sinuous black streak in submedian fold from it to the antemedial line, which is double, brown filled in with whitish, very highly angled outwards in the interspaces and inwards on the veins; orbicular and reniform small, rounded, and defined by black, closely approximated and connected by a black streak in discal fold; postmedial line double, brown filled in with whitish, bent outwards below costa, then minutely dentate, incurved below vein 4 and angled outwards at vein 1, some minute white points beyond it on costa, and blackish points on the veins. Hind wing white, the costa tinged with brown towards apex, the underside with the costal area irrorated with brown.

Hab. N. NIGERIA, Minna (*Macfie*), 2 ♂ type. *Exp.* 24 mm.

778 a. *Agrotis melamesa*, sp. n.

♀. Head ochreous tinged with red-brown; antennæ blackish; palpi irrorated with blackish except towards tips; thorax red-brown mixed with grey and slightly irrorated with blackish; pectus and legs ochreous suffused with brown, the tarsi dark brown with pale rings; abdomen grey-brown. Fore wing greyish suffused with red-brown, the costal area suffused with black-brown except at apex, interrupted at the lines; subbasal line double, brown filled in with whitish, sinuous, from costa to submedian fold; antemedial line double, blackish filled in with whitish, oblique, waved; orbicular and reniform small, incompletely defined by black, a quadrate black patch between them and two slight black marks on outer edge of reniform; a sinuous dark medial line from cell to inner margin; postmedial line indistinct, double, filled in with whitish, strongly bent outwards below costa, then with double black points at the veins, incurved below vein 4, some minute white points beyond it on costa; traces of a pale sinuous subterminal line; a terminal series of minute black points. Hind wing white slightly tinged with brown, the cilia whiter except at apex; the underside with the costal area irrorated with brown, a postmedial dark bar from costa.

Hab. N. NIGERIA, Minna (*Macfie*), 2 ♀ type. *Exp.* 26 mm.

779 a. *Agrotis ustula*, sp. n.

♂. Head and thorax dark red-brown, the tegulae except at tips yellow mixed with red, and with slight red medial line; pectus and legs black-brown, the throat ochreous, the fore coxae bright rufous, the tarsi ringed with ochreous; abdomen pale red-brown, the ventral surface ochreous. Fore wing pale ochreous yellow suffused with fiery red, except the base and the cell and area just below it to the antemedial line, the inner area suffused with blackish except at base; a fine black streak in submedian fold before the antemedial line, which is double, blackish, dentate, bent inwards to inner margin; orbicular pale ochreous yellow with small black spot in centre, its outer edge produced to a point confluent with the reniform, which has a greyish centre defined by black and ochreous-yellow annulus on inner side only; an oblique dark shade from lower angle of cell to inner margin; postmedial line double and black at costa, strongly bent outwards below costa, then represented by an oblique series of black points on the veins defined on outer side by ochreous points, the veins beyond them streaked with black; the terminal part of costa black with a series of pale points; an ochreous apical patch, the termen below it with a series of black points; cilia ochreous with slight dark line near base except towards apex and intersected with black at veins 6 to 4. Hind wing semihyaline white faintly tinged with brown, a slight discoidal point and terminal line; the underside with the costal area tinged with ochreous and irrorated with brown, a black discoidal spot, postmedial series of minute streaks on the veins and terminal series of small black spots from apex to vein 2.

Hab. BR. E. AFRICA, Nairobi (*Anderson*), 1 ♂ type.
Exp. 28 mm.

841 a. *Episilia cirphidia*, sp. n.

♂. Head and thorax red-brown mixed with grey and some fuscous; abdomen grey suffused with red-brown. Fore wing grey tinged with red-brown and thickly irrorated with dark brown; a dark brown fascia below median nervure; a minute black spot in middle of cell and two discoidal spots; a whitish streak in discal fold from the discocellulars to before termen, with dark red-brown fascia above and below it, met by an oblique red-brown shade from termen below apex; a terminal series of minute black spots; cilia whitish, with a brown line near base. Hind wing pale red-brown; cilia whitish, with a red-brown line through them; the

underside whitish tinged with red-brown, the costal area irrorated with brown.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 40 mm.

841 b. *Episilia leucaniades*, sp. n.

♂. Head and thorax bright red-brown; abdomen fuscous brown, the anal tuft red-brown. Fore wing bright red-brown irrorated with a few black scales; a blackish streak along terminal part of median nervure and above vein 4 to before termen; two minute black points in middle of cell and a discoidal point; a terminal series of minute black spots. Hind wing dull reddish brown tinged with grey; cilia grey, with a brown line through them: the under-side with the costal half brownish white, irrorated with a few black scales, the inner half dark brown, a terminal series of minute black spots.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 36 mm.

891 a. *Episilia pyronota*, sp. n.

♂. Head and basal half of tegulæ white slightly tinged with red; antennæ fuscous except towards base; palpi red, the second joint with some black at sides, the tips whitish; terminal half of tegulæ and thorax bright chestnut-red, the tegulæ with white line towards tips; pectus and legs whitish tinged with red, the tibiæ streaked with black, the tarsi blackish at extremities; abdomen whitish tinged with red, the dorsum suffused with fuscous, a sublateral series of black spots. Fore wing whitish suffused with bright chestnut-red except on costal area, the median nervure streaked with white, the veins of terminal area pale faintly defined by brown streaks; a strong black fascia below basal half of median nervure and a black streak above middle of median nervure; a small black spot in middle of cell and small discoidal lunule; a postmedial series of black points, bent outwards below costa and oblique below vein 4; a wedge-shaped blackish shade from termen at discal fold, a lunulate shade below vein 3, and a terminal series of black points. Hind wing pure white, the inner margin slightly tinged with brown; a small black discoidal point and terminal series of striæ from apex to vein 2. Underside of fore wing with the disk suffused with fuscous; hind wing with the costal area tinged with rufous and irrorated with black.

Ab. 1. Fore wing less strongly suffused with chestnut-red.

Hab. PERU, Agualani (*Ockenden*), 2 ♂ type, Acopampa, 1 ♂. *Exp.* 30-34 mm.

891 b. *Episilia lacteicosta*, sp. n.

♂. Head and thorax whitish tinged with rufous; antennæ blackish except towards base; palpi rufous, white at tips and with some black at side of second joint; abdomen whitish tinged with rufous and dorsally with brown. Fore wing whitish suffused with bright rufous except on costal area and slightly irrorated with black; the median nervure streaked with white; a strong black fascia below basal half of median nervure and a black streak above middle of median nervure; a small black spot in middle of cell and larger discoidal spot with a blackish streak between their lower parts continued faintly above vein 4; a postmedial series of black points, bent outwards below costa and oblique below vein 4; a wedge-shaped black shade from termen at discal fold, a lunulate shade below vein 3, and a terminal series of black points. Hind wing pure white, the inner margin faintly tinged with brown; a small blackish discoidal spot and terminal series of black striæ from apex to vein 2. Underside of fore wing with the disk suffused with fuscous; hind wing with the costa tinged with rufous and the costal area irrorated with large black scales.

Hab. PERU, Agualani (*Ockenden*), 2 ♂ type. *Exp.* 32-34 mm.

GENUS TRICHOPTIA, NOV.

Type, *T. homogenea*.

Proboscis fully developed; palpi obliquely upturned, the second joint reaching to about middle of frons and rather broadly scaled in front, the third short, porrect; frons smooth with tuft of scales and flattened tuft above between antennæ; eyes large, round, hairy, not overhung by cilia; antennæ ciliated; thorax clothed with hair and scales mixed, the pro- and metathorax with spreading crests; tibiæ moderately fringed with hair, all the tibiæ spined; abdomen with some rough hair at base, but without crests. Fore wing rather long and narrow, the apex rounded, the termen evenly curved and not crenulate; veins 3 and 5 from near angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell or shortly stalked; 5 obsolescent from middle of discocellulars; 6, 7 stalked; 8 anastomosing with the cell near base only.

893 a. *Trichoptia homogenea*, sp. n.

♂. Head and thorax red-brown mixed with black-brown

and grey; palpi black-brown, the extremity of second joint white; tegulæ with black-brown medial line edged with white behind; tarsi black-brown ringed with white; abdomen grey suffused with brown. Fore wing grey tinged in parts with brown and irrorated with black-brown; double subbasal black striæ from costa and cell and a black fascia below the cell from the latter to the antemedial line which is formed by double black spots at costa and a double oblique waved line from cell to inner margin; claviform defined by black, moderate; orbicular and reniform defined by black, rather small, the former round, the latter with its centre defined by black-brown, a black fascia before the former and two streaks on brown suffusion between them; postmedial line with two black spots at costa, then dark brown, bent outwards below costa, then somewhat dentate with a double series of black points beyond it, strongly incurved below vein 4 and touching lower part of reniform, some black-brown suffusion beyond it on costal area with white points on costa; a wedge-shaped patch of dark brown suffusion from termen at discal fold and a lunulate patch below vein 3; a terminal series of small black lunules; a fine pale line at base of cilia followed by a brown line. Hind wing white; a blackish discoidal spot and terminal series of small spots except towards tornus; the underside with the costal area irrorated with black, a postmedial series of minute dark streaks on the veins.

Ab. 1. Fore wing more uniform brown, the dark markings in the cell and on postmedial area reduced.

Hab. PERU, Agualani (*Ockenden*), 1 ♂ type, Acopampa, 1 ♂. *Exp.* 30 mm.

976 b. *Lycophotia costaneata*, sp. n.

♂. Head and thorax purplish grey mixed with chestnut-red and irrorated with a few black scales; tegulæ with black-brown line near tips; anteunæ blackish, whitish towards base; palpi chestnut-red, whitish at tips; sides of frons black-brown; pectus and legs chestnut-red, the tibiæ grey irrorated with blackish; abdomen grey towards base, rufous towards extremity, the ventral surface chestnut-red. Fore wing purplish grey suffused with chestnut-red, especially on terminal area, and irrorated with a few black scales; antemedial line grey defined on each side by chestnut-red, oblique, waved; a small round black spot defined by grey in middle of cell and minute discoidal lunule faintly defined by grey; postmedial line grey defined on each side by chestnut-red, bent outwards below costa, then dentate, incurved below

vein 4: a terminal series of blackish points and a fine pale line at base of cilia. Hind wing pure white; a blackish discoidal point and terminal series of striæ from apex to above vein 3; cilia tinged with rufous at apex. Underside of fore wing suffused with fuscous brown except at costa; hind wing with the costal area tinged with rufous and irrorated with black, a small discoidal spot.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 31 mm.

976 c. *Lycophotia carnea*, sp. n.

♂. Head and thorax bright rufous; antennæ dark brown except towards base; palpi chestnut-red except at tips, the sides of frons dark brown; pectus chestnut-red in front; tibiæ and tarsi grey-brown streaked with blackish; abdomen grey-brown, the extremity and ventral surface bright rufous. Fore wing flesh-red tinged with greyish and sparsely irrorated with black; an indistinct oblique maculate rufous antemedial line; a blackish point in middle of cell and slight dark discoidal bar; postmedial line indistinct, dark, bent outwards below costa, then dentate, excurved to vein 4, then incurved; a terminal series of black points. Hind wing pure white; a blackish discoidal point and terminal series of striæ from apex to above vein 3; cilia tinged with rufous at apex. Underside of fore wing suffused with fuscous brown except at costa; hind wing with the costal area rufous irrorated with black, a small black discoidal spot.

Hab. PERU, Uruhuasi, 1 ♂ type. *Exp.* 32 mm.

1014 a. *Aplectoides occidens*, sp. n.

♀. Head and thorax violaceous grey mixed with brown; pectus and abdomen whitish tinged with rufous. Fore wing violaceous grey irrorated with brown; a curved black sub-basal line from costa to vein 1; antemedial line black defined on inner side by grey, oblique, sinuous; claviform moderate, defined by black; orbicular and reniform grey defined by black, the former oblique, elliptical, open above, a red-brown shade before and between them in and below the cell; a faint sinuous red-brown line from lower angle of cell to inner margin; postmedial line indistinct, bent outwards below costa, then somewhat dentate, excurved to vein 4, then incurved, some pale points beyond it on costa; subterminal line indistinct, whitish, excurved below vein 7 and at middle, with a slight red-brown patch before it on costa and black streaks on the veins; a terminal series of small black lunules. Hind wing whitish suffused with red-

brown, the cilia paler; the underside whitish tinged and irrorated with brown, a small dark discoidal spot and curved sinuous postmedial line.

Hab. CANADA, Br. Columbia, Sicamous (*Miss Ricardo*), 1 ♀ type, Peachland in Coll. Wolley-Dod. *Exp.* 34 mm.

1016 a. *Aplectoides beddeci*, sp. n.

♂. Head and thorax white tinged with ochreous and mixed with some black; palpi black at tips; tegulæ with black band near tips; abdomen white tinged with ochreous brown and with lateral black stripes. Fore wing white tinged in parts with ochreous and slightly irrorated with black, the medial area more strongly irrorated; subbasal line black, angled outwards below costa and ending at submedian fold, in which there is a slight black streak towards base; antemedial line strong, black, dentate towards costa, excurved in submedian interspace and angled inwards on vein 1; claviform defined by black and connected by a short streak with the postmedial line; orbicular and reniform strongly defined by black except above, constricted at middle, the former very small; postmedial line black, bent outwards below costa, then dentate, excurved to vein 4, then strongly incurved; subterminal line represented by a series of dentate black marks, angled outwards at vein 7 and incurved below vein 3; a terminal series of small black spots. Hind wing white tinged in parts with brown, a dark discoidal spot, postmedial line angled outwards at veins 4 and 1, and diffused subterminal band angled inwards at discal fold; a terminal series of small black spots; the underside brownish white irrorated with black, a black discoidal lunule and strong sinuous postmedial band.

Hab. NEWFOUNDLAND, Doyles Cadroy Valley (*Maj. Beddek*), 1 ♂ type. *Exp.* 36 mm.

1021 a. *Anytus cupola*, sp. n.

♂. Head and thorax white mixed with black-brown; frons with black bar; antennæ blackish; tegulæ with black line near tips; patagia with black streak near upper edge; pectus and legs white mixed with brown, the tarsi banded with black; abdomen white mixed with brown, the crests blackish. Fore wing irrorated with dark brown and suffused in parts with red-brown, the medial inner area suffused with red-brown giving off curved arms on outer side of antemedial and inner side of postmedial lines; a sinuous black streak below base of cell defined above by whitish; a slight

curved dark subbasal striga from costa; antemedial line indistinctly double filled in by whitish, oblique, sinuous, strongly bent inwards to inner margin; claviform defined by black, its upper edge oblique from median nervure, extending to near the postmedial line, with which it is connected by a black streak; orbicular and reniform large, pale, with slight white annuli incompletely defined by black, the former rather elliptical, the latter somewhat angled inwards on median nervure; an oblique sinuous blackish line from lower angle of cell to inner margin; postmedial line double filled in with white, the inner line strong and black below vein 5, bent outwards below costa, then excurved and minutely waved to vein 2, then incurved, some whitish points beyond it on costa; subterminal line indistinct, pale, dentate, defined on inner side by dentate black marks from below vein 6 to below vein 2 and with blackish streaks beyond it in the interspaces, except at apex, ending in the terminal series of small black lunules; cilia with a fine whitish line at base. Hind wing pure white with a black terminal line except towards tornus interrupted at the veins; the underside with the costal area irrorated with brown, a small black discoidal spot.

♀. Fore wing rather darker; hind wing suffused with brown, an indistinct curved postmedial line.

Hab. U.S.A., Utah, Eureka (*Spalding*), 1 ♂, 1 ♀ type.
Exp. 42 mm.

1021 b. *Anytus derelicta*, sp. n.

♂. Head, thorax, and abdomen pale grey mixed with brown; palpi blackish at sides; frons with black bar; tegulæ with black line near tips; tarsi banded black and whitish; abdomen with the crests blackish at tips. Fore wing bluish grey tinged with brown; a sinuous black streak below the basal half of cell; antemedial line black, angled outwards in the cell and strongly in submedian fold and above inner margin and inwards at median nervure and vein 1; claviform defined by black, pointed at extremity where it extends to the postmedial line; orbicular and reniform with slight whitish annuli defined by black, faintly above, the former oblique; postmedial line black, slightly defined on outer side by whitish towards inner margin, oblique towards costa, then dentate, incurved and stronger from vein 2 to the claviform, some white points beyond it on costa; the veins of terminal area slightly streaked with blackish; an oblique series of black streaks in the interspaces from below apex to vein 2, the streaks below vein 5

interrupted before termen; a fine blackish terminal line; cilia brown with a fine white line at base. Hind wing white tinged with brown; a slight brownish discoidal striga; a fine black terminal line and dark line through the cilia; the underside white irrorated with brown, a small black discoidal spot, traces of a postmedial line, and terminal series of black striae.

Hab. CANADA, Manitoba, Aweme (*Criddle*), 2 ♂ type, Cartwright (*Heath*), 1 ♂, Alberta, Calgary (*Wolley-Dod*), 1 ♂. *Exp.* 40-46 mm.

HADENINÆ.

1278 a. *Miselia proleuca*, sp. n.

♀. Head and thorax dark greyish brown; antennæ white towards base; pectus and legs white mixed with brown; abdomen whitish suffused with brown except towards base. Fore wing pale grey-brown thickly irrorated with black, the costal area creamy white irrorated with black towards costa; antemedial line black defined on inner side by greyish, curved, obsolete on costal area; orbicular and reniform creamy white, their centres irrorated with blackish, the former rounded, the latter rather triangular; postmedial line black, almost obsolete and excurved below costa, slightly incurved at discal fold, and oblique below vein 4; subterminal line ochreous defined on inner side by black-brown, slightly angled outwards at vein 7, then slightly curved; a terminal series of black points. Hind wing white with rather diffused brown terminal line; the underside with the costal area irrorated with black.

Hab. BR. E. AFRICA, Makuru (*Bodeker*), 1 ♀ type. *Exp.* 36 mm.

1419 a. *Odontestra goniosema*, sp. n.

♀. Head and thorax brown mixed with grey; tarsi dark brown with pale rings; abdomen ochreous tinged with rufous. Fore wing brown suffused with purplish grey, a reddish-ochreous fascia on medial part of inner margin defined above by a black streak below submedian fold; subbasal line double, black filled in with whitish, angled outwards on median nervure, then oblique and ending at vein 1; antemedial line double, black filled in with ochreous white, slightly sinuous to submedian fold, then oblique; orbicular with pale brownish centre and white annulus defined by black, small, round; reniform whitish incompletely defined by black and its centre defined by brown,

narrow, oblique, angled inwards on median nervure, some blackish suffusion in the cell before and between the stigmata; an indistinct sinuous black line from lower angle of cell to inner margin; postmedial line double, black filled in with whitish, oblique to vein 6, then minutely waved, more strongly incurved just below vein 2, the costal area beyond it suffused with blackish and with some whitish points on the costa; subterminal line whitish defined on inner side by dentate black marks, angled outwards to termen at veins 7, 4, 3; a terminal series of small black spots. Hind wing whitish suffused with brown.

Hab. N. NIGERIA, Miina (*Macfie*), 1 ♀ type. *Exp.* 28 mm.

1431 d. *Hadena leucoceps*, sp. n.

♂. Head and tegulae white with some brown hairs; antennae black, ringed with white towards base; palpi and sides of frons black-brown; thorax black-brown with oblique white stripes on patagia; pectus white, brown in front; tibiae and tarsi black ringed with white; abdomen white dorsally suffused with brown, the anal tuft brown and white. Fore wing dark blue-grey; a curved white subbasal striga from costa defined on each side by black and an oblique white striga below the cell defined on inner side by black and with black patch beyond it; some white at base of inner margin; antemedial line white, interrupted below costa and at median nervure, defined on outer side by black at costa, retracted in cell, excurved below vein 1 and retracted as a white streak on inner margin defined above by black; medial area with the submedian interspace black, the claviform represented by a large clavate white patch at its extremity; orbicular and reniform white irrorated with fuscous, large, the former rather quadrate, the latter angled inwards on median nervure to the former, the cell before and between them black; postmedial line with white spot at costa, bent outwards below costa, then oblique, with white striae above and below vein 6, a white striga in submedian interspace and outwardly oblique white striga defined on inner side by black at inner margin, some white points beyond it on costa; subterminal line represented by white points on diffused black marks from below costa to vein 5, obliquely curved below vein 7, and a white striga on diffused black between veins 3 and 1; a terminal series of slight blackish points; cilia chequered white and brown. Hind wing pure white, the veins and termen suffused with fuscous; cilia with a maculate fuscous line through them;

the underside with the costal area irrorated with fuscous, a slight blackish streak in middle of cell, small discoidal spot, slight postmedial line from costa to discal fold, and terminal series of striæ from apex to vein 2.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 30 mm.

1431 e. *Hadena clavisigna*, sp. n.

♂. Head and thorax grey tinged with brown and mixed with black-brown; tegulæ with a black line towards tips; antennæ ringed black and white; frons with lateral black bars; tarsi black ringed with white; abdomen grey-brown, the anal tuft rufous. Fore wing grey tinged with brown and irrorated with blackish; double subbasal black striæ from costa and a black patch below the cell with an oblique white striga on it; antemedial line double, black, angled outwards below costa, then oblique to vein 1 where it is slightly angled inwards, then curved inwards to inner margin and filled in with white; the medial area with some dark brown suffusion in submedian interspace; claviform represented by a clavate yellowish-white mark at its extremity; orbicular with slight whitish annulus defined by black, concave towards base; reniform with slight whitish annulus defined by black, angled inwards on median nervure to the orbicular, dark brown patches in the cell before and between them and a patch beyond the reniform; postmedial line double, blackish, bent outwards below costa, angled outwards at vein 6, then oblique and somewhat dentate to vein 2, the costa beyond it blackish with some white points on it; a subterminal black-brown shade except at inner margin, incurved below discal fold and with a series of white points on it defined on each side by black except towards costa and a white striga in submedian interspace; a terminal series of black points; cilia with a series of blackish spots at base. Hind wing whitish suffused with reddish brown, especially on the veins and terminal area; cilia whitish tinged with rufous and with a red-brown line through them; the underside grey tinged with rufous and irrorated with brown, a slight discoidal striga and curved postmedial line.

Hab. PERU, Acopampa, 1 ♂ type. *Exp.* 32 mm.

1431 f. *Hadena uncisigna*, sp. n.

♂. Head and thorax blue-grey mixed with dark reddish brown; tegulæ with dark red-brown line before tips; palpi and sides of frons dark brown; tarsi black-brown ringed with white; abdomen grey-brown, the anal tuft and ventral

surface rufous. Fore wing blue-grey suffused and irrorated with dark brown; two small black subbasal spots on costa and a black patch below the cell with an oblique white striga on it; antemedial line dark brown slightly defined on inner side by grey, oblique, wavy, curved inwards and filled in with white on inner margin; claviform represented by a clavate white mark on a dark brown patch at its extremity; orbicular and reniform large, defined at sides by black, the former rounded, the latter angled inwards on median nervure, some dark brown before and between them; a rufous streak on terminal half of inner margin; post-medial line slight, blackish, bent outwards below costa, then oblique and slightly dentate, the costa beyond it with white points with black streaks between them; subterminal line represented by an oblique black bar from costa with white striga on it below vein 8, a black bar between veins 6 and 4 with two white striæ on it, and a bar between vein 3 and submedian fold with an oblique white line on it, some rufous between these markings; a terminal series of small black-brown spots tinged with rufous and a series at base of cilia. Hind wing white tinged with brown especially on the veins and terminal area; cilia white with a brown line through them; the underside whitish, the costal and terminal areas irrorated with red-brown, a black discoidal spot, sinuous brown postmedial line, and terminal series of striæ.

♀. Fore wing with the white striæ on the subterminal markings more broken up into spots.

Ab. 1. Fore wing with the clavate mark beyond the claviform reduced to a small spot.

Hab. PERU, Acopampa (*Watkins*), 1 ♂, 2 ♀ type. *Exp.* 28-32 mm.

1526 b. *Hyssia hamiltoni*, sp. n.

Antennæ of male bipectinate with moderate branches to near apex.

Head and thorax grey-white mixed with pale red-brown; antennæ black-brown; tegulæ with dark brown line near tips, whitish at base; tarsi black-brown ringed with whitish; abdomen grey suffused with pale red-brown. Fore wing reddish brown suffused with whitish, the medial area rather browner; subbasal line black-brown, sinuous, from costa to vein 1; antemedial line black-brown, oblique, sinuous; claviform obscurely defined by diffused black-brown; orbicular white defined by black, open above; reniform with diffused whitish annulus incompletely defined by black;

postmedial line indistinct, black-brown, bent outwards below costa, then slightly waved, incurved below vein 4; subterminal line formed by diffused dentate black-brown marks, angled outwards at vein 7 and excurved at middle; a terminal series of minute black-brown lunules. Hind wing whitish suffused with pale red-brown; the cilia whiter; the underside with small brown discoidal spot.

Hab. N. ZEALAND, Wellington (*Hamilton*), 1 ♂, 1 ♀ type. *Exp.* 44 mm.

1536 a. *Hyssia sminthistis*, sp. n.

♂. Head and thorax fuscous brown mixed with grey; palpi black-brown; tarsi dark brown with slight pale rings; abdomen dark grey-brown with some whitish at base of sides. Fore wing glossy fuscous brown tinged with grey and irrorated with a few white scales; a blackish subbasal striga from costa; antemedial line blackish, oblique to submedian fold and angled inwards on vein 1; small spots formed by elongate white scales beyond the angles of cell; postmedial line black, slightly bent outwards below costa, then dentate, oblique below vein 4, some pale points beyond it on costa; a subterminal series of small white spots formed of elongate scales and slightly defined on inner side by black; a fine ochreous line at base of cilia. Hind wing dark brown, the interspaces of basal half whitish; cilia with an ochreous line at base; the underside white thickly irrorated with brown, the terminal area suffused with brown, a black discoidal spot and diffused sinuous postmedial line.

Hab. PERU, Acopampa (*Watkins*), 1 ♂ type. *Exp.* 44 mm.

1538 a. *Hyssia griseata*, sp. n.

♀. Head and thorax purplish grey mixed with brown; antennæ brown, the shaft white above towards base; palpi and sides of frons dark red-brown; abdomen dark greyish brown, the anal tuft tinged with rufous. Fore wing purplish grey irrorated with dark brown; antemedial line indistinct, black-brown, oblique to submedian fold and angled inwards at vein 1; claviform defined by a few blackish scales at extremity; orbicular defined by slight oblique blackish striæ at sides; reniform small and faintly defined at sides by blackish; postmedial line indistinct, blackish, excurved below costa, then forming slight lunules, oblique below vein 4; subterminal line represented by a series of slight dark brown spots in the interspaces except towards costa, somewhat wedge-shaped between veins 7 and 4; a terminal

series of black striæ; cilia whitish with brown lines near base and tips. Hind wing grey suffused with brown, the veins irrorated with dark scales; cilia white with a brown line near base; the underside grey tinged with brown, the costal and terminal areas irrorated with dark brown, a dark discoidal striga.

Hab. PERU, Acopampa (*Watkins*), 1 ♀ type. *Exp.* 34 mm.

1608 a. *Eriopyga diapera*, sp. n.

Head and thorax ochreous and pale red-brown; palpi and frons at sides black; spurs with black bands; tarsi black ringed with brown; abdomen fuscous black, the anal tuft and ventral surface pale ochreous tinged with rufous. Fore wing pale ochreous tinged with red-brown and slightly irrorated with blackish, the veins with slight pale streaks; blackish subbasal striæ from costa and cell; antemedial line indistinct, brown, waved, with black points at costa, median nervure, and vein 1; a blackish point at middle of cell; reniform defined by black except at middle, where it is constricted and filled in with reddish ochreous; a diffused blackish medial line, oblique to lower angle of cell, then inwardly oblique; a faint, minutely dentate, brownish post-medial line with a series of black points on it, excurved from below costa to vein 4, then oblique, the costa beyond it with alternating pale and black points; an obliquely incurved line from apex to inner margin, approximated to the post-medial line below vein 5, black towards apex, then brown defined on outer side by reddish ochreous; a terminal series of black points; cilia with two brown lines through them. Hind wing pale ochreous brown; a terminal series of black points from apex to vein 2; cilia ochreous white; the underside ochreous white, the costal area sparsely irrorated with black, a blackish discoidal spot, a curved fuscous postmedial line with series of black points at the veins, the terminal black points prominent.

Hab. ECUADOR, Balzapamba, 1 ♂; PERU, Limbani (*Ockenden*), 1 ♂, 1 ♀ type, Agualani (*Ockenden*), 1 ♂, 2 ♀, Oconceque (*Ockenden*), 1 ♂. *Exp.* 36 mm.

1611 a. *Eriopyga polygrapha*, sp. n.

Head and thorax rufous slightly irrorated with dark brown; antennæ blackish, the shaft with pale rings towards base; palpi dark brown; frons with black lateral bars; tarsi dark brown with pale rings; abdomen pale reddish brown, the anal tuft pale yellow. Fore wing pale red-brown

irrorated with dark brown; subbasal line double, brown, waved, from costa to vein 1; antemedial line double, brown, oblique, waved, somewhat incurved in cell; orbicular defined by four black points and with dark shade at middle; reniform defined at sides by black points and by a white point at lower extremity, its lower part filled in with black; a diffused dark medial line, oblique to the reniform and inwardly oblique below the cell; postmedial line double, brown, oblique below costa, then dentate and the outer line produced to black points on the veins, excurved to vein 4, then incurved; subterminal line represented by a series of blackish spots in the interspaces, slightly excurved below vein 7 and at middle; a terminal series of small blackish spots; cilia with an ochreous line at base. Hind wing reddish brown, the cilia ochreous white; the underside grey-white irrorated with brown, a blackish discoidal spot, rather diffused sinuous postmedial line, and terminal series of small black spots from apex to discal fold.

Hab. PERU, Agualani (*Ockenden*), 1 ♂ type, Huancabamba, 1 ♀. *Exp.* ♂ 40, ♀ 45 mm.

1611 b. *Eriopyga eugrapha*, sp. n.

♀. Head and thorax dark brown mixed with ochreous; antennæ ringed ochreous and brown towards base; frons with lateral black bars; tarsi blackish ringed with ochreous; abdomen fuscous brown with some whitish at base, the ventral surface ochreous brown irrorated with dark brown. Fore wing pale red thickly irrorated with dark red-brown, the terminal area suffused with brown; subbasal line dark brown defined on outer side by pale red, waved, from costa to vein 1; antemedial line black defined on inner side by pale red, angled outwards below costa, then oblique, waved; orbicular and reniform large, with black-brown centres and pale red annuli defined by black, the former round, the latter with two white points at lower extremity; a dark brown medial shade, oblique to the reniform, then inwardly oblique; postmedial line double, blackish filled in with pale red lunules, slightly bent outwards below costa, then dentate, incurved below vein 4, some pale red points beyond it on costa; subterminal line white defined on each side by slight black spots, incurved below costa and excurved below middle; a terminal series of black points; cilia with a fine ochreous line at base followed by a waved dark line. Hind wing reddish brown, the cilia reddish ochreous; the underside grey-white irrorated with brown, a black discoidal spot,

diffused sinuous postmedial line, and terminal series of small black lunules from apex to vein 2.

Hab. PERU, Uruhuasi (*Watkins*), 1 ♀ type. *Exp.* 40 mm.

1641 *b.* *Eriopyga rubrivena*, sp. n.

♀. Head and thorax dark reddish brown; tarsi ringed with white; abdomen dark reddish brown with some whitish at base. Fore wing dark glossy brown tinged with grey and finely irrorated with black, the basal inner area suffused with rufous; antemedial line indistinctly double, dark, waved; reniform indistinctly defined by black, its upper part filled in with rufous and a white point in its lower extremity; postmedial line indistinct, blackish, oblique towards costa, then dentate, and oblique below vein 4; a small rufous spot just before termen at submedian fold; a fine pale line at base of cilia. Hind wing white tinged with reddish brown, the terminal area suffused with brown; cilia white with a brown line through them: the underside white thickly irrorated with brown, a black discoidal spot, indistinct postmedial line with minute black streaks at the veins, a black terminal line.

Hab. PERU, Acopampa, 1 ♀ type, Limbani (*Ockenden*), 2 ♀. *Exp.* 36 mm.

1649 *a.* *Eriopyga monochroa*, sp. n.

♀. Head, thorax, and abdomen reddish brown tinged with grey; antennæ pale reddish brown. Fore wing glossy reddish brown tinged with grey; traces of a sinuous brown antemedial line; reniform greyish faintly defined by brown; an indistinct brown postmedial line, oblique to vein 6, then slightly waved and incurved below vein 4; subterminal line whitish defined on inner side by brown, slightly excurved below vein 7 and at middle. Hind wing reddish brown tinged with grey, the cilia paler; the underside grey suffused and thickly irrorated with reddish brown, a dark discoidal point and rather diffused curved postmedial line.

Hab. PERU, Acopampa, 1 ♀ type. *Exp.* 26 mm.

1702 *a.* *Persectania basifascia*, sp. n.

Head and thorax pale grey tinged with red-brown, the antennæ browner; abdomen greyish suffused with rufous. Fore wing pale grey slightly tinged with red-brown and sparsely irrorated with black; a strong black fascia in submedian fold to below origin of vein 2; a minute sub-basal black spot in the cell; antemedial line represented by

black points on costa and vein 1 and an oblique striga above inner margin; orbicular and reniform small, incompletely defined by black, the former very narrow and elongate, a black streak between them in lower part of cell and beyond the reniform to the postmedial line with a diffused dark shade below it; postmedial line black, rather interrupted, bent outwards below costa, then strongly dentate, oblique below vein 4; subterminal line indistinct, pale, somewhat dentate, defined on inner side by diffused black-brown; a terminal series of small black lunules. Hind wing whitish suffused with pale red-brown, the cilia white; the underside white faintly tinged with red brown, a small brown discoidal spot, a slight postmedial line excurved below costa, then oblique and ending at vein 4, a terminal series of blackish lunules from apex to vein 2, then a dark line.

Hab. N. ZEALAND (*Hamilton*), 1 ♂, 1 ♀ type. *Exp.* 32 mm.

1797 a. *Aspidifrontia pulverea*, sp. n.

Head and thorax rufous mixed with blackish, the hinder part of thorax with some whitish; antennæ with the shaft whitish above; abdomen whitish tinged with rufous, the ventral surface suffused with black-brown. Fore wing greyish suffused with rufous and irrorated with black; traces of a double slightly sinuous dark antemedial line, the two lines well separated; postmedial line indistinct, dark, slightly sinuous, oblique below vein 4, a series of minute black streaks beyond it on the veins; faint traces of a dark subterminal line with blackish points at the veins; a terminal series of small black lunules. Hind wing white tinged with rufous; a fine dark terminal line; the underside with the costal area suffused with red-brown, a minute dark discoidal spot and postmedial striga from costa.

Hab. N. NIGERIA, Minna (*Macfie*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 22, ♀ 26 mm.

1827 a. *Dasygaster albiviata*, sp. n.

♂. Head and thorax ochreous brown; palpi with blackish patch at side of second joint; frons with lateral blackish bars; vertex of head blackish; tegulæ with three blackish lines on basal half and a shade before tips; patagia with some black scales on upper edge and blackish outer edge; fore femora black-brown on inner side, the mid and hind legs with slight black-brown marks at femoro-tibial joint, the tarsi ringed black and white at extremities; abdomen reddish ochreous with sublateral black-brown spots on medial segments. Fore

wing ochreous tinged with red-brown and irrorated with black, the cell and area just below and beyond it suffused with fuscous, the median nervure, veins 4, 3 and veins 8, 7, 6 with slight white streaks except at termen; a black streak in base of submedian fold; a subbasal black striga from costa; antemedial line slight, black, oblique, dentate, angled inwards to black points on the veins; a small rufous spot defined by black scales in middle of cell; reniform small, whitish suffused with rufous and irrorated with black, a short black streak beyond its lower extremity; postmedial line slight, black, dentate and with small black lunules in the interspaces, excurved to vein 4, then oblique; an oblique white shade from apex to vein 2 beyond the cell, with black marks on its outer edge below veins 7, 4, 3; a terminal series of small black spots. Hind wing ochreous brown, the cilia whitish tinged with rufous. Underside of fore wing suffused with fuscous; hind wing white, the costal area suffused with reddish ochreous and irrorated with brown, a waved blackish postmedial line from costa to discal fold and a terminal series of small black spots from below apex to vein 2.

Hab. BR. N. GUINEA, Kumusi R. (*Meek*), 2 ♂ type. *Exp.* 46 mm.

1864 a. *Cirphis pyrausta*, sp. n.

♂. Head and thorax ochreous white slightly tinged with red; palpi and frons suffused with blackish; antennæ blackish behind; fore tibiæ and tarsi streaked with blackish on inner side; abdomen ochreous white suffused with brown, the ventral tufts black. Fore wing pale yellow suffused with fiery red especially on terminal area and sparsely irrorated with black; antemedial line blackish, waved, angled inwards on median nervure and vein 1, oblique to submedian fold; a whitish streak on extremity of median nervure and a black point in lower extremity of cell; postmedial line represented by a series of minute blackish lunules, oblique below vein 4, a series of yellowish streaks beyond it on the veins with black points on them; an oblique diffused yellowish fascia from apex with a brownish shade below it extending to lower angle of cell; a terminal series of black points. Hind wing white, the area beyond the cell tinged with rufous from vein 6 to submedian fold with minute postmedial blackish streaks on veins 3 and 2; the underside silvery white with terminal series of black points from apex to vein 2.

Hab. UGANDA, Entebbe (*Neave*), 1 ♂, Lake George (*Neave*), 1 ♂ type. *Exp.* 30 mm.

2055 b. *Leucania phæoneura*, sp. n.

♀. Head and thorax pale red-brown; antennæ brown, the shaft white towards base; abdomen grey-brown, the anal tuft and ventral surface pale red-brown. Fore wing pale red-brown, the veins and basal half of submedian fold with dark streaks; veins 6, 4, 3 defined by whitish streaks to near termen; an oblique postmedial series of dark points from discal fold to above vein 1; a fine dark terminal line; cilia ochreous with three brown streaks through them. Hind wing glossy red-brown; cilia ochreous with a brown line near base; the underside whitish suffused with brown.

Hab. PERU, Acopampa, 1 ♂ type. *Exp.* 34 mm.

[To be continued.]

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

May 28th, 1913.—Dr. Aubrey Strahan, F.R.S., President,
in the Chair.

The following communication was read:—

‘The Internal Structure of Upper Silurian Rugose Corals from the Grindrod Collection, Oxford Museum.’ By Donald Esme Limes, B.A.

In this paper the following genera and species are described:—

Palæocyclus porpita, *P. fletcheri*, *P. rugosus*.

Cystiphyllum siluriense, *C. cylindricum*.

Cyathophyllum (?): a new species.

Cyathophyllum articulatum, *C. truncatum*.

Strombodes murchisoni, *Str. typus*, *Str. diffluens*.

The new species of *Cyathophyllum* (?) is of especial interest. It was figured by Milne Edwards & Haime as *Cystiphyllum cylindricum* Lonsdale, with which it has no close affinities. It combines characters of the Silurian *Cyathophyllum* and *Hallie* with those of the Lower Carboniferous *Caminia*.

Particular attention is paid to the construction of a septum in the various genera, the following types being all well represented:—

(a) Radial spines on the vesicles, with their bases often connected by a web. Example: *Cystiphyllum*.